HISTORIC AMERICAN ENGINEERING RECORD INDEX TO PHOTOGRAPHS

Waddell Dam Agua Fria River Phoenix Vicinity Maricopa County Arizona HAER No. AZ-11

Views AZ-11-1 through 6 and AZ-11-8 through 48 are photocopies of photographs. Views AZ-11-77 through AZ-11-153 are photocopies of construction drawings; original drawings are located at the Maricopa County Municipal Water Conservation District Number One at Waddell, Arizona.

- AZ-11-1 Henry Beardsley standing in front of his store in Ohio.

 Photographer unknown, 1887.
 Source: William M. Beardsley
- AZ-11-2 William Beardsley standing along the Agua Fria River near construction site of the Agua Fria project.

 Photographer James Dix Schuyler, 1903.

 Source: Schuyler, James D. "Report on the Water Supply of the Agua Fria River, and the Storage Reservoir Project of the Agua Fria Water and Land Company For Irrigation in the Gila River Valley, Arizona," (September 29, 1903). Arizona Historical Collection, Hayden Library, Arizona State University, Tempe, Arizona. (Typewritten.)
- AZ-11-3 View of diversion dam unfinished.
 Photographer James Dix Schuyler, 1903.
 Source: Schuyler report.
- AZ-11-4 William Beardsley standing atop diversion dam.
 East cableway tower and construction camp, Camp
 Dyer are visible in the foreground.
 Photographer James Dix Schuyler, 1903
 Source: Schuyler report.
- AZ-11-5 William Beardsley standing along canal section. Photographer James Dix Schuyler, 1903. Source: Schuyler report.
- AZ-11-6 Watchman Robert "Jerry" Jones at Camp Dyer. Photographer James Dix Schuyler, 1903. Source: Schuyler report.

Waddell Dam
HAER No. AZ-11 (Page 2)
Index to Photographs

- AZ-11-7 Photocopy of map of the Agua Fria Valley and lands to be irrigated by the Agua Fria Water and Land Company.

 Photographer Mark Durben, 1987

 Source: "Map of the Agua Fria Valley and the Western Portion of the Salt River Valley Showing the System of Reservoirs and Canals of the Agua Fria Water and Land Company and the Land to be Irrigated Thereby 160,000 Acres of New Land to be Reclaimed in the Maricopa County, Arizona Territory," (Brochure) Union Photo Engraving Company, c. 1895, Salt River Project Research Archives, Tempe, Arizona.
- AZ-11-8 William Beardsley standing with his son Robert Beardsley.
 Photographer unknown, c. early 1920s.
 Source: William M. Beardsley
- AZ-11-9 Excavation work at Pleasant Dam (now called Waddell Dam).

 Photographer unknown, July, 22, 1926.
 Source: Maricopa County Municipal Water Conservation District Number One (MWD).
- AZ-11-10 Excavation of arch.

 Photographer unknown, July 22, 1926.

 Source: MWD.
- AZ-11-11 Buttress rising above stream bed elevation.

 Concrete mixing plant is at right, west tower and placement tower boom are visible.

 Photographer unknown, November 24, 1926.

 Source: Ralph Pleasant.
- AZ-11-12 Interior view of cement and aggregate batch plant showing storage bins.

 Photographer unknown, c. 1926.

 Source: Ralph Pleasant.
- AZ-11-13 Workers spilling concrete.

 Photographer unknown, July 7, 1926.

 Source: MWD.
- AZ-11-14 View of construction progress from concrete placement tower.

 Photographer unknown, 1926.
 Source: MWD.
- AZ-11-15 Exposed bedrock at buttress number ten. Photographer unknown, 1926. Source: MWD.

Waddell Dam
HAER No. AZ-11 (Page 3)
Index to Photographs

- AZ-11-16 View of arch form work from downstream side. Photographer unknown, 1926. Source: MWD.
- AZ-11-17 Upstream side of arches and buttress supports. Photographer unknown, January 1927. Source: MWD.
- AZ-11-18 Upstream face of arches, concrete placing tower is at far right. Tower at center was used to convey material.

 Photographer unknown, January 29, 1927.
 Source: MWD.
- AZ-11-19 Upstream face of arches and buttresses at west end.
 Photographer unknown, January 29, 1927.
 Source: MWD.
- AZ-11-20 Form work of buttress at west end. Photographer unknown, 1927. Source: MWD.
- AZ-11-21 Buttress construction work, buttress at left shows top portion of buttress hollow "H" design. Photographer unknown, 1927.

 Source: MWD.
- AZ-11-22 Downstream face of buttresses at west end. Photographer unknown, 1927. Source: MWD.
- AZ-11-23 Upstream view of buttress and arch form work and construction.

 Photographer unknown, 1927.

 Source: MWD.
- AZ-11-24 Penstock intake openings on upstream face. Photographer unknown, 1927. Source: MWD.
- AZ-11-25 Grill work over penstock intake openings. Photographer unknown, 1927. Source: MWD.
- AZ-11-26 Evening view of concrete mixing plant, concrete placement tower, cableway tower, power line and derrick.

 Photographer unknown, 1927.

 Source: MWD.

Waddell Dam HAER No. AZ-11 (Page 4) Index to Photographs

- A2-11-27 Evening view of downstream face of Pleasant Dam under construction. Part of construction camp housing is visible in foreground. Photographer unknown, 1927. Source: MWD.
- A2-11-28 View of construction shops looking west and downstream.

 Photographer unknown, October 29, 1926.
 Source: MWD.
- AZ-11-29 View of construction shops and housing from west abutment. River bed, foreground, downstream from dam site, being excavated for aggregate material. Photographer unknown, 1927.

 Source: MWD.
- AZ-11-30 Upstream face of construction effort.
 Photographer unknown, January 29, 1927.
 Source: Fritz Seifritz.
- AZ-11-31 Cross sectional view of construction from west abutment.

 Photographer unknown, 1927.

 Source: MWD.
- A2-11-32 Temporary drop gate over penstock opening. Photographer unknown, April 21, 1927. Source: MWD.
- AZ-11-33 Pleasant Dam spillway gates.
 Photographer unknown, June 29, 1927.
 Source: MWD.
- AZ-11-34 Operating mechanisms for spillway gates, looking west.

 Photographer unknown, 1927.
 Source: MWD.
- AZ-11-35 Upstream face of dam nearly completed. Photographer unknown, 1927. Source: Ralph Pleasant.
- AZ-11-36 Downstream face of dam nearly completed. Photographer unknown, 1927. Source: Ralph Pleasant.
- A2-11-37 Cross section of Pleasant Dam completed. Photographer unknown, 1927. Source: Ralph Pleasant.
- AZ-11-38 Pleasant Dam.
 Photographer unknown, 1927.
 Source: MWD.

Waddell Dam HAER No. AZ-11 (Page 5) Index to Photographs

- AZ-11-39 Pleasant Dam from east abutment with spillway visible at center.
 Photographer unknown, 1927.
 Source: MWD.
- AZ-11-40 Reservoir behind Pleasant Dam, looking downstream, spillway is at right.
 Photographer unknown, c. late 1920s.
 Source: MWD.
- AZ-11-41 Upstream end of emergency spillway excavation. Photographer unknown, 1929.

 Source: Arizona Department of Water Resources (ADWR).
- AZ-11-42 View of emergency spillway excavation looking downstream from spillway.

 Photographer unknown, 1929.

 Source: ADWR.
- AZ-11-43 River Crossing Flume carrying canal water west across the Agua Fria River approximately four miles downstream from Pleasant Dam.
 Photographer unknown, c. late 1920s.
 Source: Nancy Bunch
- AZ-11-44 Reinforcement construction to Pleasant Dam.
 Photographer unknown, 1935.
 Source: Huber Collection, University of
 California, Berkeley, Water Resources Library.
- A2-11-45 Reinforcement work to buttresses at Pleasant Dam.
 Support work for roadway and roadway visible.
 Photographer unknown, 1935.
 Source: Huber Collection.
- A2-11-46 View of access portal holes drilled to place steel ties in Pleasant Dam buttresses.

 Photographer unknown, 1935.

 Source: Huber Collection.
- AZ-11-47 Carl Pleasant with family.
 Photographer unknown, 1927.
 Source: Ralph Pleasant.
- AZ-11-48 Donald Ware Waddell
 Photographer unknown, no date.
 Source: Eleanor Libby.
- A2-11-49 Downstream face of Humbug Creek Diversion Dam with sluice opening at center.
 Photographer James Eastwood, 1986.
 Source: Salt River Project.

Waddell Dam HAER No. AZ-11 (Page 6) Index to Photographs

- AZ-11-50 Upstream face of Humbug Creek Diversion Dam showing sluice opening.

 Photographer James Eastwood, 1986.
 Source: Salt River Project.
- AZ-11-51 Downstream end of diversion tunnel around east end of Humbug Creek Diversion Dam.
 Photographer James Eastwood, 1986.
 Source: Salt River Project.
- AZ-11-52 Humbug Creek Diversion Dam showing original masonry structure at right and concrete weir at left added later.

 Photographer James Eastwood, 1986.
 Source: Salt River Project.
- AZ-11-53 Humbug Creek looking downstream from Humbug Diversion Dam. Retaining wall for canal is visible beginning at left center. Photographer James Eastwood, 1986. Source: Salt River Project.
- AZ-11-54 Downstream face of Agua Fria project's diversion dam showing initial masonry construction and poured concrete capping.

 Photographer Mark Durben, 1986.

 Source: Salt River Project.
- AZ-11-55 Downstream face of diversion dam looking northwest.
 Photographer Mark Durben, 1986.
 Source: Salt River Project.
- AZ-11-56 Upstream face of diversion dam looking east. Headgates are partially visible at far left. Photographer Mark Durben, 1986. Source: Salt River Project.
- AZ-11-57 Downstream side of left section of diversion dam. Photographer Mark Durben, 1986.
 Source: Salt River Project.
- AZ-11-58 Downstream view of Waddell Dam. Photographer Mark Durben, 1986. Source: Salt River Project.
- AZ-11-59 Downstream view of Waddell Dam showing buttress ties, crane, housing over penstock outlet (left) and storage building (right).

 Photographer Mark Durben, 1986.

 Source: Salt River Project.

Waddell Dam
HAER No. AZ-11 (Page 7)
Index to Photographs

- AZ-11-60 Waddell Dam in relation and spillway tailrace. Photographer Mark Durben, 1986. Source: Salt River Project.
- AZ-11-61 View of the Agua Fria River stream bed from atop Waddell Dam.

 Photographer Mark Durben.

 Source: Salt River Project.
- AZ-11-62 Lake Pleasant with snow in the Bradshaw Mountains. Photographer Mark Durben.
 Source: Salt River Project.
- AZ-11-63 Upstream face of Waddell Dam as viewed from the west abutment. Crane at center is used to service the penstock intake.

 Photographer Mark Durben.
 Source: Salt River Project.
- AZ-11-64 Penstock housing with outlet needle valve at lower left. Roadway support work is visible at top. Photographer Mark Durben.
 Source: Salt River Project.
- AZ-11-65 Close up view of downstream face of arch, buttress ties and roadway support work. Photographer Mark Durben. Source: Salt River Project.
- AZ-11-66 View wtihin buttress showing buttress tie. Photographer Mark Durben. Source: Salt River Project.
- AZ-11-67 View of penstock and housing. Motor at left is used to operate outlet valve.

 Photographer Mark Durben.
 Source: Salt River Project.
- AZ-11-68 Penstock at left with operating wheel mechanism.
 The two outlets, center and right, have never been used.
 Photographer Mark Durben.
 Source: Salt River Project.
- AZ-11-69 View of downstream face from west or right abutment.

 Photographer Mark Durben.

 Source: Salt River Project.
- AZ-11-70 Downstream view of Waddell Dam spillway and taintor gates.

 Photographer Mark Durben.
 Source: Salt River Project.

Waddell Dam HAER No. AZ-11 (Page 8) Index to Photographs

- AZ-11-71 Close up view of downstream view of four large taintor gates and section for sector gate (now removed).

 Photographer Mark Durben.
 Source: Salt River Project.
- AZ-11-72 Headgates for Agua Fria project canal on east end of diversion dam.

 Photographer Mark Durben.
 Source: Salt River Project.
- AZ-11-73 View of canal, gunite lined, with turnout gates. Photographer Mark Durben.
 Source: Salt River Project.
- AZ-11-74 View of flume crossing the Agua Fria River from the east embankment.

 Photographer Mark Durben.
 Source: Salt River Project.
- AZ-11-75 View of flume from stream bed. Photographer Mark Durben. Source: Salt River Project.
- AZ-11-76 View of flume from west end standing in canal. Photographer Mark Durben. Source: Salt River Project.
- AZ-11-77 Plan of Proposed Concrete of Rubble Masonry Dam at Frog Tanks on the Agua Fria River, Arizona. September 1903.
- AZ-11-78 Agua Fria Irrigation Project, Frog Tanks Dam proposed.
 August 8, 1911.
- AZ-11-79 Frog Tanks Reservoir, Agua Fria Irrigation Survey. c. 1911.3
- AZ-11-80 Diversion Dam and Reservoir.
 June 1925.
- AZ-11-81 Bedrock Topography of River Bed Below Lake Pleasant Dam.
 May 1929.
- AZ-11-82 Elevation of Frog Tanks Dam. May 1925.
- AZ-11-83 Details of Buttress Reinforcement.
 December 1925.
- AZ-11-84 Details of Arch Reinforcement and Buttress Slab Detail.

 December 1925.

- AZ-11-85 Buttress No. 1, Arch No. 1, Gravity Section, Cutoff Wall. c. 1925.
- AZ-11-86 Buttress No. 2, Arch No. 1, As Built. c. 1925.
- AZ-11-87 Buttress No. 3, Arch No. 2, As Built. c. 1925.
- AZ-11-88 Buttress No. 4, Arch No. 3, As Built. c. 1925.
- AZ-11-89 Buttress No. 5, Arch No. 4, As Built. c. 1925.
- AZ-11-90 Buttress No. 6, Arch No. 5, As Built. c. 1925.
- AZ-11-91 Buttress No. 7, Arch No. 6, As Built. c. 1925.
- AZ-11-92 Buttress No. 7, Arch No. 6, As Built. c. 1925.
- AZ-11-93 Buttress No. 8, Arch No. 7, As Built. c. 1925.
- AZ-11-94 Buttress No. 9, Arch No. 8, As Built. c. 1925.
- AZ-11-95 Buttress No. 10, Arch No. 9, As Built. c. 1925.
- AZ-11-96 Buttress No. 10. c. 1925.
- AZ-11-97 Buttress No. 11, Arch No. 10, As Built. c. 1925.
- AZ-11-98 Buttress No. 12, Arch No. 11, As Built. c. 1925.
- AZ-11-99 Buttress No. 13, Arch No. 12, As Built. c. 1925.
- AZ-11-100 Buttress No. 14, Arch No. 13, As Built. c. 1925.
- AZ-11-101 Buttress No. 15, Arch No. 14, As Built. c. 1925.
- AZ-11-102 Buttress No. 16, Arch No. 15, As Built. c. 1925.

Waddell Dam HAER No. AZ-11 (Page 10) Index to Photographs

- AZ-11-103 Buttress No. 17, Arch No. 16, As Built. c. 1925.
- AZ-11-104 Buttress No. 18, Arch No. 17, As Built. c. 1925.
- AZ-11-105 Buttress No. 19, Arch No. 18, As Built. c. 1925.
- AZ-11-106 Buttress No. 20, Arch No. 19, As Built. c. 1925.
- AZ-11-107 Buttress No. 21, Arch No. 20, As Built. c. 1925.
- AZ-11-108 Buttress No. 22, Arch No. 21, As Built.
- AZ-11-109 Buttress No. 23, Arch No. 22, As Built. c. 1925.
- AZ-11-110 Buttress No. 24 and 25, Arch No. 23 and 24, As Built.
 c. 1925.
- AZ-11-111 Buttress No. 26 and 27, Arch No. 25 and 26, As Built.
 c. 1925.
- AZ-11-112 Maricopa Dam (Waddell Dam) Reinforcing Stress Diagram of Butttresses. November 28, 1933.
- AZ-11-113 Maricopa Dam Reinforcing Detail of Water Slabs. December 1, 1933, August 16, 1934.
- AZ-11-114 Maricopa Dam Reinforcing Detail of Water Slabs. December 2, 1933, and August 18, 1934.
- AZ-11-115 Maricopa Main Dam Strengthening Stresses in Reinforced Buttresses.

 December 29, 1933.
- AZ-11-116 Maricopa Dam Reinforcement Details of Water Slabs and Floors.

 July 24, 1924, and July 11, 1936.
- AZ-11-117 Maricopa Dam Water System, Electric Transmission Lines, Catwalk, Derrick at Elev. +65. October 15, 1934.
- AZ-11-118 As Built Details Water Slab and Bottom Buttress, Buttresses 9 Thru 5. June 15, 1935.

Waddell Dam
HAER No. AZ-11 (Page 11)
Index to Photographs

- AZ-11-119 Details of Pier 18, Outside Face Reinforcing Only. December 5, 1935.
- AZ-11-120 Map of Reservoir Area, Proposed Sycamore Dam on the Agua Fria River. September 17, 1938.
- AZ-11-121 Face Slab, Sidewalk, Parapet Wall. January 2, 1930.
- AZ-11-122 Gravity Section, Retaining Wall, Cutoff Wall. c. 1925.
- AZ-11-123 Outlet Works, General Plan, Frog Tanks Multiple Arch Dam. July 1925.
- AZ-11-124 Outlet Works. July 1926.
- AZ-11-125 Penstock Supports, Needle Valve Pier. 1926.
- AZ-11-126 Butterfly Valves 72" and 96" Operating Stand. March 13, 1924.
- AZ-11-127 Butterfly Valve 72" Diameter, Operating Details. March 6, 1924.
- AZ-11-128 Butterfly Valves, Operating Nut for 72" Butterfly Valve.

 June 3, 1924.
- Az-11-129 72" Butterfly Valve Disc., 150 Foot Head. August 20, 1926.
- AZ-11-130 72" Butterfly Valve Shaft and Stem. August 24, 1926.
- AZ-11-131 72" Butterfly Valve Assembly. August 28, 1926.
- AZ-11-132 Hydraulic 66" X 48" Needle Valve, Yoke and Bearing Details.
 c. 1926.
- AZ-11-133 Hydraulic 66" X 48" Needle Valve Details of Gears. September 7, 1926.
- AZ-11-134 66" X 48" Needle Valve Assembly. September 7, 1926.
- AZ-11-135 Spillway Gates for 171' Dam, 150,000 Second Foot Capacity.

 December 1925.

Waddell Dam HAER No. AZ-11 (Page 12) Index to Photographs

- AZ-11-136 Spillway Taintor Gate. September 25, 1926.
- AZ-11-137 Taintor Gates, Trusses and Girders. October 1926.
- AZ-11-138 Spillway Layout. February 15, 1934.
- AZ-11-139 Diagrammatic Sketch, Spillway Operating Mechanism. July 1934.
- AZ-11-140 Spillway Gates, Automatic Controls. July 1934.
- AZ-11-141 Spillway Gates. February 1935.
- AZ-11-142 Maricopa Storage Dam, Bridge Over Crest.
 December 1934.
- AZ-11-143 Maricopa Storage Dam, Details of Bridge Over Crest.

 December 1934.
- AZ-11-144 Bridge Over Crest of Dam, East and West Approaches.

 March 30, 1935.
- AZ-11-145 Bridge Over Crest of Dam, West Approach.
 June 4. 1935.
- AZ-11-146 Maricopa Dam, Proposed Derrick at Arch No. 9. September 28, 1934.
- AZ-11-147 Map of Camp Pleasant, 1 of 5. August 1926.
- AZ-11-148 Map of Camp Pleasant, 2 of 5. August 1926.
- AZ-11-149 Map of Camp Pleasant, 3 of 5. August 1926.
- AZ-11-150 Map of Camp Pleasant, 4 of 5. August 1926.
- AZ-11-151 Map of Camp Pleasant, 5 of 5. August 1926.
- AZ-11-152 Warehouse, Maricopa Storage Dam. November 27, 1934.

Waddell Dam HAER No. AZ-11 (Page 13) Index to Photographs

AZ-11-153 Operator's House, Main Dam. October 1934.